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September 30, 2017 1415 EDT

HURRICANES IRMA AND MARIA MANAGEMENT REPORT

Information contained in this report reflects HQ and regional reporting from the most recently completed operational period as well as other reports provided by HQ, regional and interagency sources.

National Incident Management Objectives

Objective 1: Ensure that health and safety of the EPA responders is considered at all times.

Objective 2: Establish an incident management structure and processes employing the Incident Command System to enable effective overall management of the event with deployment of resources (staff and equipment) in a rapid, aggressive and well-coordinated manner.

Objective 3: Ensure prompt Review and Processing of Fuel Waiver requests.

Objective 4: Prepare for and provide Rapid Assessment of Industrial facilities as requested by the State or under EPA's statutory program responsibilities for CERCLA Superfund, RMP and FRP facilities. Working with our state partners, contact industrial sources within the impacted area to determine their operational status and determine what support can be provided with the monitoring of the start-up of industrial sources.

Objective 5: Prepare for and provide Rapid Assessment & Technical Assistance Drinking Water & Wastewater facilities as requested by the State or local government. EPA will support our state partners in contacting drinking water and waste water systems.

Objective 6: Prepare a Sustained Response Plan that outlines the resource and equipment needs for a long duration response.

Objective 7: Activate the Agency's Crisis Communication Plan to ensure effective and efficient coordination of all incident communications.

Objective 8: Encourage a collaborative federalism approach, where national, state and local governments interact cooperatively and collectively to solve common problems.

Objective 9: Begin Agency internal and external coordination under the National Disaster Recovery Framework regarding Recovery Support Functions in which EPA is likely to be involved.

Executive Summary

Region 2

- As of 1300 EDT on September 29th, Tropical Storms Maria and Lee are far out to sea and no longer a concern for US interests. Deep tropical moisture is expected to bring numerous showers to Puerto Rico (PR) and the U.S. Virgin Islands (USVI) through Sunday night. Rainfall amounts of 2 to 4 inches will be possible, and a flash flood watch has been posted for Puerto Rico and the US Virgin Islands (thru Sunday). The threat for heavy rainfall also exists over southern/eastern Florida including the Florida Keys over the next few days. Rainfall amounts of 1 to 3 inches will be possible over most of the area, however 3 to 6 inches will be possible near Jacksonville, FL. A flash flood watch is in effect through Sunday evening. Moderate to major Tidal concerns will be an issue along the Southeast coast Sunday into Tuesday. R2 has provided safety advisories regarding the risks of potential flash floods, mud slides, and driving hazards that may impact personnel safety and operations.
- As of September 30th, The CEPD Guaynabo office is up and running on generator power and data, voice and cell phone services have been restored. The office will officially open on Monday, October 2nd. The CEPD office in Vieques, PR sustained minimal damage; it has generator power (though fuel supply is limited), but no water service. The CEPD office in St. Thomas, has been assessed to be in the same condition as post Hurricane Irma.
- All Caribbean Environmental Protection Division (CEPD) personnel are accounted for and safe.
- On September 29th, eighteen EPA Oil and Hazardous Materials Assessment personnel have deployed and arrived safely in St. Croix.
- In PR, 50% of the (Puerto Rico Aqueducts Sewer Authority) PRASA-served population are without access to drinking water service. PR has an island wide boil water order. A list of all impacted DW/WW facilities is being prepared to facilitate distribution of generators and/or other repair equipment.
- USVI is building additional water storage:
 - St. Croix: The Concordia potable water pump station is online and the west end of the island was expected to gain water storage as early as September 29th. The Kingshill tank was repaired and should begin to build storage and the west end of the island should begin to receive potable water service. The island has three-days emergency water supply.
 - St. Thomas: Potable water service restored to all communities in the east end of the island and two districts. The island has three days emergency water supply.
 - St. John: Potable water service is available throughout the island. The island has four days emergency water supply.
- On October 1st, a R2 Assessment team comprised of OSCs, RPMs, technical assistance contractors, public affairs officers and security will deploy to PR.

Region 4

- The current schedule for management reports from R4 is Tuesday and Friday.
- A Mission Assignment was approved, providing funding for EPA Landfill Specialty Teams through October 3. Two R4 landfill technical specialists mobilized on September 27th.
- Four EPA field teams composed of OSCs, Superfund RPMs, and contractors deployed to Florida on September 25th, and have established a forward command center in Marathon Key.
- Current EPA operations consist of identification of staging areas for orphan containers, hazardous waste, and fuel and oil recovered from vessels. The Key West-Marathon Airport has been established as the initial staging area.
- On September 28th, EPA completed all 592 of the assessments of non-community public water systems assigned by FDEP.
- A new Mission Assignment (MA) for \$10,000,000 to continue the EPA ESF-10 Mission through November has been approved.

Regional Mission Assignments and Funding

| EPA Region | Mission Assignment Number | Funding Amount | Description of Assignment |
|-------------------|----------------------------------|-----------------------|--|
| Region 2 | 4339DR-PR-EOA-03 | \$10,000,000 | Removal, cleanup and disposal of oil & hazmat; collect and dispose of HHW; monitor immediate threats to public H&S and the environment in PR |
| | VI-17090102-EPA-01 | \$10,000 | ESF-10 support of the FEMA's RRCC in Colts Neck, NJ |
| | 4335DR-VI-EPA-01 | \$100,000 | Activate EPA to FEMA R2 RRC in Colts Neck, NJ to support FEMA and FEMA NRCC. |
| | 4335DR-VI-EPA-02 | \$1,008,000 | To perform assessment of oil and hazardous materials releases, contaminated debris and other environmental events in USVI |
| | 4335DR-VI-EPA-04 | \$10,000,000 | Conduct oil and hazardous materials field operations, including cleanup and disposal of hazardous materials and oil, and response to orphaned containers in order to mitigate actual and potential threats to public health and safety. |
| | 4335DR-VI-EPA-06 | \$2,000,000 | EPA provides support preparing for site-specific platforms for situational awareness; environmental data management; operational deployment plans; documentation of assessment activities and results; resource and financial tracking, accountability and cost documentation. |
| | PR-17090102-EPA-01 | \$20,000 | Activate EPA to FEMA R2 RRC and other locations as necessary for PR (pre-landfall) |
| | 3384EM-PR-EPA-01 | \$75,000 | Activate EPA to FEMA R2 RRCC, EPA REOC, State EOC, JFO, PDA, and RNA Teams and other coordination venues to support FEMA response in PR |
| | 4336DR-PR-EPA-01 | \$100,000 | Activate EPA to FEMA R2 RRCC and other EOCs |
| | 4336DR-PR-EPA-02 | \$1,008,000 | To perform assessment and reconnaissance of oil and hazardous materials release, contaminated debris and storm impacted infrastructure which may pose a threat to federal responders as well as environmental harm in PR. |
| Region 4 | 4337DR-FL-EPA-05 | \$90,000 | Activation for appropriate EPA personnel to perform the functions of ESF 10 w/ RRCC, IOF, JFO, FEMA's Incident Management Assistance Team (IMAT), Preliminary Damage Assessment (PDA) Team, or other teams and locations, at the direction and coordination of FEMA. |
| | 4337DR-FL-EPA-03 | \$525,000 | Activate Federal Hazardous Assessment Response Team w/resource support to conduct assessments at hazardous substances within R4 |

| EPA Region | Mission Assignment Number | Funding Amount | Description of Assignment |
|--------------|---------------------------|------------------------|---|
| | 4337DR-FL-EPA-04 | \$9,000,000 | Provide oil and hazardous material field response in support of FEMA response operations providing specialized expertise, conducting damage assessment of oil/hazmat waste impact evaluating hazards; and/or response, removal, or disposal of: actual and potential oil discharges, and releases of hazardous substances, pollutants and contaminants and remove pollutants from vessels in or upon navigable waters and adjoining shorelines. |
| | 4337DR-FL-EPA-07 | \$675,000 | Provide funding for EPA Landfill Specialty Teams through October 3. |
| | 4337DR-FL-USGC-05 | \$10,000,000 | EPA will provide oil, hazardous substances, pollutants, and contaminants field response and recovery actions in support of FEMA response and recovery operations. |
| Total | | \$44,611,000.00 | |

Number of Regional Personnel Involved in Response

| Type | R2 Personnel | R4 Personnel | Total Regional Personnel |
|--------------------|--------------|--------------|--------------------------|
| EPA | 104 | 27 | 131 |
| Contractors | 28 | 11 | 39 |
| Totals | 132 | 38 | 170 |

Region 2 Significant Activities

- In PR, 50% of the PRASA-served population are without access to drinking water service. PR has an island wide boil water order. A list of all impacted DW/WW facilities is being prepared to facilitate distribution of generators and/or other repair equipment.
- USVI is building additional water storage:
 - St. Croix: The Concordia potable water pump station is online and the west end of the island was expected to gain water storage as early as September 29th. The Kingshill tank was repaired and should begin to build storage and the west end of the island should begin to receive potable water service. The island has three-days emergency water supply.
 - St. Thomas: Potable water service restored to all communities in the east end of the island and two districts. The island has three days emergency water supply.
 - St. John: Potable water service is available throughout the island. The island has four days emergency water supply.
- Results from nine public water facilities sampled in St. Croix on September 25th tested positive for e-coli in three systems. The affected systems were disinfected on September 27th. EPA sampled an additional 17 water systems on September 26th, eight tested positive for E. Coli.
- On September 27th EPA sampled 12 additional water systems on St. Croix, of those 12 sampled one sample was positive for bacteria.
- EPA will continue to coordinate and follow up with the Department of Planning Natural Resources (DPNR) to notify the proprietor of the system and ensure disinfection measures are taken.

Superfund and Oil Sites

- R2 estimates that there are 1,700 active and temporarily closed underground storage tank (USTs) facilities in PR.
- R2 is assessing Superfund and oil sites in PR and USVI as part of R2's redeployment plan.
- There are 23 Superfund and oil sites (20 in PR and 3 in USVI). EPA has visited two NPL sites and one oil site. EPA is prioritizing the remaining NPL sites and have identified Papelera, Vega Baja, Juncos, Vega Alta, and Upjohn as first priorities. The table below lists sites where assessments have been completed or completed a phase of assessment.

| SUPERFUND SITES (NPL, Removal and Oil) | | | | | | |
|--|----------------|-----------------------|------------------------|------------|----------------------------|----------------------|
| Site | Type | Phase 1: | Phase 2 | | Phase 3 | All Phases Completed |
| | | Post-Storm Assessment | Site Inspection Needed | Inspected | Additional Response Action | |
| PUERTO RICO | | | | | | |
| Arecibo Battery Recycling Corp. | Removal & NPL* | 09/22/2017 | No | 09/22/2017 | No | 09/22/2017 |
| Corozal Battery | Removal & NPL* | 09/24/2017 | No | 09/24/2017 | No | 09/24/2017 |
| Puma Caribe (CAPECO) | Oil Response | 09/21/2017 | No | 09/25/2017 | No | 09/25/2017 |
| Papelera Puertorriquena, Inc. | NPL | 09/29/2017 | | | | |

* These are Sites that have both a Removal and Remedial program action. Only one assessment will be conducted per Site.

Puerto Rico

| Facility Type | Sites Identified | Pre-Storm Remote Assessment | Post Storm Remote Assessment | Post Storm Field Assessment | Follow-up Action Required |
|--|------------------|-----------------------------|------------------------------|-----------------------------|---------------------------|
| RMP | 56 | 56* | 47^ | 0 | 0 |
| FRP | 22 | 22* | 12^ | 0 | 0 |
| SPCC (non-FRP) | 232 [#] | 232 ^{#*} | 4^ | 0 | 0 |
| Total | 310 [#] | 310 [#] | 63^ | 0 | 0 |
| * Pre-Hurricane email requested facilities to self-identify any pre-existing compromised conditions (construction at process areas, tank maintenance, etc.). No facilities reported pre-existing compromised conditions. | | | | | |
| ^ Based on Post-Hurricane oil spill/chemical release/damage assessment email and phone calls. | | | | | |
| [#] There is no SPCC submission or de-registration requirement. This number reflects the number of known non-FRP SPCC facilities indicated as "active" in the Oil Database. | | | | | |

U.S. Virgin Islands

| Facility Type | Sites Identified | Pre-Storm Assessment | Post Storm Assessment | Post Storm Field Assessment | Follow-up Action Required |
|--|------------------|----------------------|-----------------------|-----------------------------|---------------------------|
| RMP | 1 | 1* | 1^ | 0 | 0 |
| FRP | 6 | 6* | 5^ | 0 | 0 |
| SPCC (non-FRP) | 57 [#] | 57 ^{#*} | 1^ | 0 | 0 |
| Total | 64 [#] | 64 [#] | 7^ | 0 | 0 |
| * Pre-Hurricane email requested facilities to self-identify any pre-existing compromised conditions (construction at process areas, tank maintenance, etc.). No facilities reported pre-existing compromised conditions. | | | | | |
| ^ Based on Post-Hurricane oil spill/chemical release/damage assessment email and phone calls. | | | | | |
| [#] There is no SPCC submission no de-registration requirement. This number reflects the number of known non-FRP SPCC facilities indicated as "active" in the Oil Database. | | | | | |

Drinking Water / Wastewater (DW/WW) Assessments

On USVI

- EPA is working to procure a contract with Ocean Systems for sampling and lab analysis on St. Croix, St. Thomas, and St. John. The Ocean Systems lab on St. Thomas is functioning under generator power. The Ocean Systems lab on St. Croix is not operational due to lack of power; EPA has requested and is waiting for FEMA to provide a generator for this facility. Until a generator is secured for the St. Croix lab, EPA will continue to analyze the collected water samples on St. Croix utilizing a Colilert field test kit for the presence/absence of bacteria.
- USVI DPNR and EPA created a priority list for drinking water systems sampling. DPNR has asked EPA to conduct sampling, especially bacteria and analysis. Starting September 26th, DPNR will start assessment on the west part of the Island.
- EPA collected 24 drinking water samples, which will be analyzed for E. coli and total coliform. The results were expected September 29th.
- USVI Water and Power Authority (WAPA) is reporting they are operating at 1/3 of typical drinking water distribution capacity on St. Croix. WAPA collected and analyzed 20 samples from WAPA operated drinking systems. All results indicate no issues with the drinking water quality from WAPA systems.
- The Army National Guard has supplied four reverse osmosis units. The RO units are currently located on St. Croix however, the units are not currently deployed and it is unclear when and where the units will be utilized.
- The waste water treatment plants on all three islands are operational but have limited pumping capacity due to lack of commercial power. The DW system is gaining additional storage on all three islands.

| Drinking Water and Wastewater Assessments (as of September 27, 2017) | | |
|--|-------------------|-------------------|
| Assessment Types | Daily Assessments | Total Assessments |
| On-Site DW Assessments | 10 | 29 |
| On-Site WW Assessments | 0 | 0 |

On PR

- CEPD DW and WW section conducted assessments at 3 PRASA water quality laboratories. Two of the three (Arecibo & Caguas) were found to have significant storm damage.
- EPA has received several requests for DW/WW analytical and assessment and sampling support from USACE, PRASA, and PRDOH. REOC and IOF staff are preparing documentation to support the eventual Mission Assignment that will cover all of these requests.
- FEMA, USACE, EPA, and DOH are meeting on September 30th to coordinate federal support to Non-PRASA drinking water facilities. In PR, there are 297 independent private and community water treatment systems that serve approximately 4% of the population.
- Out of PRASA 52 facilities, 9 are operational, 19 are non-operational, and 24 have an unknown operational status.
- In PR, 50% of the PRASA-served population are without access to drinking water service. PR has an island wide boil water order. A list of all impacted DW/WW facilities is being prepared to facilitate distribution of generators and/or other repair equipment. CEPD DW and WW section conducted assessments at 3 PRASA water quality laboratories.

Puerto Rico

| Drinking Water and Wastewater Assessments (as of September 28, 2017) | | |
|--|-------------------|-------------------|
| Assessment Types | Daily Assessments | Total Assessments |
| On-Site DW Assessments | 0 | 0 |
| On-Site WW Assessments | 0 | 0 |

Puerto Rico Drinking Water Status and Wastewater Status:

- Most PRASA WW facilities are not operational, and some that are need more fuel to power generators.
- CEPD DW and WW section conducted assessments at 7 PRASA WWTP facilities as of September 30th.

PR Air Monitoring Activities

- Environmental Quality Board (EQB) is planning to conduct an assessment on the conditions of the ambient air monitoring network. The network was taken offline prior to Hurricane Maria landfall. There is no update or information on the status or damages. They will staff an assessment team once their employees are able to return.

Debris Recovery

On PR

- EPA met with FEMA, USACE, EQB, SWMA, and private contractors to discuss establishment of 6 regional debris collection and processing centers. Contractors propose to separate and manage clean vegetative materials, mixed wastes, construction and debris, wet debris, and household hazardous waste. They are proposing to use thermal reduction system (box burners) in one of the centers and are requesting a waiver from EQB.
- Municipalities are informing that large amounts of clandestine dumps have been established in their communities. They are concerned with public health and environmental impacts.

On USVI

- As of September 27th, updates on PR debris estimates are pending from USACE.
- FEMA EOC in St. Croix. has requested that EPA take part in daily Debris Management meetings. EPA will advise on air monitoring and/or sampling protocols associated with the burning of debris. However, no decision has been made on whether there will be burn operations as of September 30th. FEMA St. Croix has also indicated that EPA may be requested to assist with medical waste issues resulting from the re-establishment of medical facilities on St. Croix and St. Thomas.

Region 4 Significant Activities

- The Key Largo Water Team completed FDEP-assigned assessments and met with utility personnel regarding the operational status of their drinking water system. The Naples Water Team completed FDEP-assigned projects with visits to two public water systems and a wastewater system. Pending receipt of new assignments, EPA Water Team members demobilized on September 28th.
- On September 26th, R4 was released from staffing the ESF-10 Desk at the State Emergency Operations Center.

Orphan Container and Pollution Response

- All containers previously collected in Collier County by the EPA Orphan Container Group were disposed by Collier County's contractor as of September 29th.
- From September 27-29, EPA teams conducted land-based assessments in the inland zone in the Marathon and Islamorada areas of the Keys. The Key West-Marathon Airport has been established as the initial container staging area.

| EPA Container Assessment Targets (Identified to Date—Florida Keys) | | | |
|--|-----------------------------|--------------------|-------------------|
| USCG Sector | Targets Identified/Assessed | Targets Completed* | Targets Remaining |
| Key West | 62 | 0 | 62 |
| *Removed or determined no further action necessary | | | |

Drinking Water / Wastewater (DW/WW) Assessments

- ESF-3 was tasked to provide technical assistance to the USACE for water infrastructure assessment. Field and remote assessment activities have been completed.
- The USACE and the Water Protection Division has completed their field mission of assisting FDEP in assessing the status of drinking water and wastewater facilities. The Facility Assessment Support Team (FAST) completed 592 assessments of the 1,112 non-community drinking water systems assigned to the team by FDEP.

| Status of Community Drinking Water Systems (CWS) and Total Population Served in Florida | | | | |
|---|------------------------|-------------------|-------------------------|-------------------|
| | Large CWS (Over 3,300) | | Small CWS (under 3,300) | |
| | # Systems | Population Served | # Systems | Population Served |
| Operational: | 395 | 19,210,964 | 1,192 | 684,223 |
| Partially Operational: | 1 | 77,500 | 14 | 15,084 |
| Non Operational: | 0 | 0 | 3 | 255 |
| Unknown: | 0 | 0 | 34 | 10,916 |
| Totals: | 396 | 19,288,464 | 1,243 | 710,478 |
| | | | | |
| Boil Water Notices | 58 Active | | | |

| Number and Status of POTWs within Florida | | | |
|---|----------------------------|-----------------------|---------------------------|
| | NPDES Permitted Facilities | | State Permits (Non-NPDES) |
| | POTW | Non-POTW (Industrial) | |
| Operational: | 143 | 242 | 1,766 |
| Partially Operational: | 2 | 1 | 33 |
| Non Operational: | 0 | 0 | 88 |
| Unknown: | 0 | 0 | 121 |
| Totals: | 145 | 243 | 2,008 |

Debris Recovery

- An MA providing funding for EPA Landfill Specialty Teams (LST) through November has been approved. Two Landfill Technical Specialists from RCRD mobilized to the Unified Command Post in Miami on September 27th and will provide debris technical assistance to Monroe County and FDEP. LST activities will be limited to technical advice and evaluation. The Team will not be involved in the physical collection or disposal of household hazardous waste.
- The LST will work with the FDEP Marathon Branch (MB) staff on implementing the use of FDEP's Disaster Debris Management Site Checklist. The LST and MB staff will cross-train for the next few days and plan to visit as many Disaster Debris Management Sites as possible.

EPA Headquarters Significant Activities

- The HQ EOC is activated to Level 1 in support of EPA Region 2 and Region 4 responses to Maria and Irma. The HQ EOC is coordinating on several levels with EPA R2, EPA R4, and other Federal agencies. The HQ EOC has deployed personnel to the FEMA NRCC to staff the ESF #10 desk. EPA Senior Management that comprise the Policy Coordination Committee (PCC) developed and issued senior management objectives that form the basis of field strategy and tactics in response to Maria and Irma.

| Personnel | AO | OAR | OARM | OCFO | OCSP | OECA | OEI | OGC | OLEM | ORD | OW | PIO | ATSDR | Totals |
|--------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|
| Employees | 0 | 4 | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 0 | 1 | 1 | 0 | 10 |
| Contractors | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| Total | 0 | 4 | 0 | 0 | 1 | 0 | 0 | 0 | 4 | 0 | 1 | 1 | 0 | 11 |

Other EPA Activities

OECA Civil/CID

- Accumulation of Hazardous Waste On-site Waiver
 - On September 29th, R2 granted a 30-day extension of the 90-day limit on the accumulation of hazardous waste on-site to Johnson & Johnson and Lilly del Caribe Inc. in PR. The two companies are large quantity generators and have informed EPA that because of impacts from the hurricanes, it is currently not possible to make hazardous waste shipments out of PR. It is possible that similar requests will be received from other companies.
- No Action Assurances
 - On September 27th OECA issued an amended NAA concerning the importation, sale, donation or distribution of mobile power generators in PR to increase the number of generators available for use during the recovery from the devastation of Hurricane Maria.
 - On September 27th OECA issued an NAA concerning the importation, sale, donation or distribution of mobile power generators in the USVI.
 - On September 21st, OECA issued three NAAs, extending Florida's existing NAAs for truck loading, vapor recovery, and roof landing until October 6th. Additionally, they issued an extension to the waiver for red-dyed diesel fuel until October 6th.
- Orders
 - On September 23rd, R2 issued an emergency order to FEMA and DOD to provide drinking water treatment services on the USVI. The Order terminates on October 8th. FEMA and DOD are working to deploy four treatment units to St. Croix.
 - On September 26th, EPA waived diesel fuel requirements to minimize and prevent disruptions in the supply of diesel fuel for mobile non-road generators and pumps used for emergency purposes in PR effective immediately through October 15th.
 - EPA HQ, Region 4 and the State of Florida are working to evaluate and respond to additional fuel waiver extension requests.

Communications

- R2, R4, and HQ activities related to Irma and Maria response efforts are available at: <http://www.epa.gov/hurricane-irma> and www.epa.gov/hurricane-maria, respectively.
- The HQ EOC Public Information Office continues to work with OLEM to develop fact sheets to inform people about issues related to returning after the storms. Topics covered include: household hazardous waste, construction debris, etc.
- On September 29th, the HQ PIO issued a press release providing updates on the recovery efforts for Hurricanes Irma and Maria in PR and USVI.
- Bi-lingual Community Involvement Coordinators are positioned for deployment to Puerto Rico, as well as community relations support for the USVI assessment and cleanup teams.
- A PIO is scheduled to deploy to Puerto Rico on Monday, October 2nd. R2 is continuing to identify personnel and options for deployment of additional CICs and PIOs through October to support ground and REOC operations.

Congressional Inquiries

- Staff from Congressman Brian Mast contacted EPA HQ to inquire whether EPA field personnel could meet with the Congressman this week to discuss Irma related water quality issues. HQ forwarded the request to the Regional Administrator's office. Originally scheduled for September 27th, this meeting is being rescheduled.